# Preventing Pollution

"An ounce of prevention is worth a pound of cure." This is especially true of pollution prevention, where waste reduction yields big savings in materials; energy; waste storage, transport, and disposal; and potential cleanup costs. EPA promotes pollution prevention with voluntary programs such as WasteWise (*for details, go to* ***www.epa.gov/wastewise***), grants to state and local governments and non-profits, information on savings and benefits, and mandatory disclosure of industries' toxics use and releases. EPA and state and tribal governments also prevent pollution by enforcing hazardous waste regulations, to ensure that hazardous wastes are safely stored, transported, and recycled or disposed of.

## GRANTS, MERIT PARTNERSHIP PROMOTE LOCAL INITIATIVES

◆ A $147,000 EPA grant to the Materials for the Future Foundation to demonstrate building deconstruction last year provided on-the-job training in construction skills for 92 Welfare-to-Work and youth participants. The program recycled 1300 tons of material and 829,200 board feet of lumber, leveraged more than $648,000 in outside funds, and established the **nation's first urban recycled lumber mill, Oakland's Community Woodworks.** The recycled lumber is sold to builders.

◆ The **Recycled Products Purchasing Cooperative,** funded by an EPA grant, has expanded to provide nationwide service. Member purchases reached over 50,000 cases of paper last year, saving water, energy, and 10,000 trees. Hundreds of members include Union Bank of California, the City of San Diego, and Sea World. *(For more details, go to* ***www.recycledproducts.org****)*

◆ An $80,000 EPA grant funded the Los Angeles County Sanitation Districts' research and outreach on **lindane,** a bioaccumulative pesticide used mainly to rid children of head lice. The research showed that lindane **posed risks both to children and the ocean environment,** where the lindane ends up. The Districts urged school nurses and pediatricians to use less-toxic alternatives. The effort prompted the state legislature to ban lindane. The ban takes effect January 1, 2002.

KAORU MORIMOTO

*EPA's John McCarroll examines bomb casings that formerly contained nerve agent at the Army's Johnston Atoll Chemical Agent Disposal facility.* ***Previous page:*** *A worker removes boards from a deconstruction site for resale and reuse. Lumber from such sites often includes high-value old-growth redwood, which is rare in lumber markets today. Photo courtesy of Materials for the Future Foundation.*

◆ An EPA grant funded the **Clean Hawaii Center's** efforts to build a **statewide recycling infrastructure.** One notable success was the September, 2000 opening of the **Kauai Resource Exchange Center**, operated by Kauai County. The Clean Hawaii Center also held recycling workshops on most of the islands and a created a statewide environmental business directory.

◆ An EPA grant to the California Integrated Waste Management Board funded the creation of **eight new recycling businesses in Alameda County, California,** with 34 new jobs. These businesses will recycle an estimated 31,094 tons of materials per year.

◆ EPA's **Merit Partnership,** a voluntary pollution prevention effort involving industry, communities, and environmental agencies, last year completed a series of interactive workshops with ten small metal finishing businesses in Southern California, helping them initiate cost-effective measures to reduce toxic chemical use—and risks to nearby residents.

## JACADS SAFELY DESTROYS OVER 400,000 CHEMICAL WEAPONS

On November 29, 2000, on isolated Johnston Island in the Central Pacific Ocean, the U.S. Army safely destroyed the last of over 400,000 obsolete chemical weapons collected from Okinawa and other U.S. military bases in the Pacific Basin and West Germany between 1971 and 1991. The weapons had been stored on the one-square-mile island 800 miles southwest of Hawaii.

EPA's strict environmental oversight of the Army's Johnston Atoll Chemical Agent Disposal System (JACADS), since its construction began in 1985, helped the facility safely incinerate over 400 million pounds of extremely toxic chemicals. The incineration process destroyed the poisons at the molecular level.

The Johnston Island stockpile, amounting to about 6% of the total U.S. chemical arsenal in 1991, included some of the deadliest weapons of mass destruction ever devised: rockets, bombs, artillery shells, and mines filled with toxins so potent, in the case of nerve agent, that a single drop on the skin can kill a person.

JACADS was the first facility of its kind in the world. It was designed as a pilot for similar plants to be built on the U.S. mainland to destroy the entire U.S. chemical weapons stockpile, in accordance with an international treaty. The next such facility recently started operating at an Army base near Tooele, Utah. JACADS may also provide a model for others to be built in Russia and other lands of the former Soviet Union.

In a "swords-to-ploughshares" move, the Army ultimately plans to transfer its property on the Pacific atoll to the U.S. Fish and Wildlife Service for inclusion in the existing Johnston Atoll National Wildlife Refuge, one of the most important bird nesting sites in the Pacific Ocean. The Army's closure, cleanup, dismantling, and removal of JACADS, now underway, is expected to take about three years.

## PARTNERSHIPS FOR SUSTAINABLE AGRICULTURE DEVELOPING "WIN-WIN" SOLUTIONS

Since 1993, EPA's regional agriculture team has been working with hundreds of California growers and the University of California to develop farming practices that minimize use of pesticides and chemical fertilizers, without sacrificing production. EPA staff are cooperating with the UC Sustainable Agriculture Research and Education Program (UCSAREP) to support **UC's Biologically Integrated Farming Systems** projects. These projects directly involve farmers who field test the new methods, and commodity groups like the California Association of Winegrape Growers, who help publicize results among the agricultural community.

Most of the participating farms, orchards, and vineyards are in California's Central Valley, where runoff laden with pesticides and fertilizers often pollutes water-

ways. Some agricultural chemicals, such as organophosphate pesticides, also pose a health risk to workers.

EPA has funded partnerships for research and education on environmentally-friendly methods of growing more than a dozen key crops, including walnuts, citrus, rice, strawberries, apples, almonds, grapes and prunes. One notable accomplishment last year was successful pest control without organophosphate pesticides in 22 prune orchards and 11 walnut orchards.

In another project, UC Cooperative Extenstion worked with eight growers cultivating 1,334 acres of rice in Butte County. These growers cut their use of the toxic herbicides molinate and thiobencarb more than 50% below the county average, and reduced their applications of synthetic nitrogen fertilizer by 20%, with no reduction in crop yields.

This ongoing collaboration between growers, scientists, and EPA has benefits for everyone with a stake in farming: Growers save money by using less chemicals; workers have safer working conditions; consumers get safer food.

*For more details, go to* ***www.sarep.ucdavis.edu***

## TRI: PREVENTING POLLUTION THROUGH PUBLIC DISCLOSURE

EPA's Toxic Release Inventory (TRI), which is now on-line, harnesses the power of public disclosure to prevent pollution: By making data on toxic emissions and use available to every community in the U.S., TRI has given industrial and government facilities a tremendous incentive to reduce their toxic releases and use. As a result, toxic emissions and use have steadily and dramatically declined since EPA published the first TRI data in 1990. Last year, the EPA uploaded toxics data onto the Internet from seven new categories of industry: electric utilities; metal mining; coal mining; chemical wholesalers; petroleum terminals; solvent recovery; and hazardous waste treatment, storage, and disposal facilities.

These sectors accounted for nearly 2,000 facilities and more than 15,000 chemical reports disclosing use of nearly 5 billion pounds of toxic chemicals—increasing the quantity of toxics covered in the TRI database by 67 percent. To make it even easier, EPA last year upgraded the TRI Explorer, an Internet tool that provides fast access to data on facilities and chemical release patterns in every community in the U.S. The latest TRI data are available on EPA's web site at ***www.epa.gov/triexplorer***

### Timonie Hood, WasteWise Coordinator


EPA REGION 9 WASTE DIVISION

*Timonie Hood staffs a booth at an environmental fair.*

Timonie Hood of EPA's Pacific Southwest regional office is helping EPA not just "talk the talk," but "walk the walk" of waste reduction and pollution prevention. She is a tireless advocate for recycling, reuse, buying recycled office supplies, and conserving energy at EPA's downtown San Francisco offices. Timonie organized a team of employees, one from each floor, responsible for making sure these guidelines are followed in the EPA's day-to-day operations.

In addition to Timonie's role as in-house waste reduction coordinator, she also helps states, cities, counties, non-profit organizations, schools, small businesses, military bases, and other federal facilities reduce the waste they generate.

Through her grant management work, Ms. Hood has made significant contributions: She oversees the EPA grant to Materials for the Future Foundation to establish the Community Woodworks building deconstruction business (see pp. 21-22).

Timonie also leads the EPA regional office's WasteWise effort, part of a national voluntary program to reduce waste. As of February 2001, WasteWise had 1,084 participating organizations spanning 53 industries, from large corporations to schools and colleges. WasteWise participants examine their operating and purchasing practices to identify cost-effective opportunities for solid waste reduction and recycling.

**To find out more about EPA's WasteWise Program, contact Timonie Hood at (415) 744-1113 or hood.timonie@epa.gov or go to www.epa.gov/wastewise**

EPA's analysis of the new numbers revealed that gold mines now operating in Nevada are a significant source of mercury emissions into the air. As a result, the mining industry, EPA, and state regulators are now working together on options to reduce them.

The TRI works best when all regulated facilities truthfully disclose their toxics data. To ensure that they do, EPA routinely checks TRI records during on-site inspections. When violations are found (as in 70 instances in the Pacific Southwest last year), EPA typically assesses monetary penalties. Facilities may elect to make pollution prevention upgrades in lieu of a portion of their penalty. In one such case in Yucaipa, California, a facility installed $229,500 worth of equipment to reduce toxic air emissions by about 19,000 pounds per year.

### HAZARDOUS WASTE ENFORCEMENT PROTECTS PUBLIC HEALTH

**Environmental Justice in L.A.:** Last year, EPA initiated a joint effort with state and local agencies to **inspect industrial facilities near schools in low-income communities in Los Angeles.** The inspectors found hazardous waste problems at 20 facilities, and notified them of changes needed. By the end of the year, all complied. The effort launched a constructive dialogue between EPA, community residents, and regulated facilities. More such targeted efforts are planned for 2001.

**No More Trash in the Wash:** EPA directed cleanup and removal of 100,000 cubic yards of municipal garbage that was part of an illegal expansion of the **Sunrise Mountain Landfill near Las Vegas.** Heavy rains in September 1998 had washed trash from the illegal dump into Las Vegas Wash, a tributary to Lake Mead, source of most of the Las Vegas area's drinking water.

**Airbag Maker Caught Dumping:** In one of the biggest hazardous waste enforcement cases in history, EPA and the state of Arizona found that a TRW Vehicle Safety Systems Inc. airbag factory in **Queen Creek, Arizona,** illegally shipped 3.2 million gallons of wastewater contaminated with toxic sodium azide to the Butterfield Landfill in Mobile, Arizona, a second landfill in Clive, Utah, and a third near Kettleman City, California. Sodium azide is the explosive ingredient that makes vehicle airbags inflate instantly on impact.

The Michigan-based company will pay $17.6 million in fines to Arizona and the U.S. Government, spend $1.5 million to clean up sodium azide at the Butterfield Landfill, perform other environmental restoration projects worth $5.7 million, and establish pollution prevention procedures at two airbag factories in Arizona and one in Nevada.

DAVID CHANEY

*This orchard's cover crops (used in integrated farming systems) provide multiple benefits – including improved soil conservation and fertility, and wildlife habitat.*